

REMARKS**Status of Claims**

Claims 1-6 and 9-18 are currently pending after entry of the instant paper. Claims 7-8 have been cancelled and claims 14-18 have been withdrawn without prejudice. Applicant reserves the right to pursue the cancelled and withdrawn subject matter in a continuing application.

Claim 1 has been amended as follows:

- i) The phrase "in an essentially horizontal position" has been added to the preamble. Support can be found throughout the specification as filed (e.g., original claim 1);
- ii) The phrase "a bending element consisting of four rolling rollers configured to essentially completely bend the anode on both sides thereby providing the anode with a radius of curvature of about 1,000 – about 3,000 millimeters, wherein each rolling roller has a diameter ranging from 100 — 500 millimeters" has been added. Support can be found throughout the specification as filed (e.g., in original claims 7 and 8);
- iii) The phrase "located below the bending element" has been added to the feed funnel portion of the apparatus. Support can be found throughout the specification as filed (e.g., original claim 7);
- iv) The phrase "a bending element; and an anode essentially completely bent on both sides with respect to the center of the anode and having a radius of curvature of about 1,000 – about 3,000 millimeters" has been deleted in view of the other amendments;

v) the phrase "bending element" has been replaced with "apparatus" in view of the other amendments;

vi) the phrase "to alter the falling trajectory of the anode" has been deleted in view of the other amendments.

No new matter has been introduced by these amendments. Support can be found throughout the specification as filed.

Response to Rejection Under 35 U.S.C. § 103(a)

The Examiner has rejected claims 1-6 and 9-13 under 35 U.S.C. § 103(a), for allegedly being unpatentable over Ikoma (U.S. Patent No. 5,685,892) (Office Action, page 2). Specifically, the Examiner is of the opinion that the recited elements of claim 1 are considered process limitations in an apparatus application. The applicants respectfully disagrees.

However, in order to expedite prosecution without disclaimer of, or prejudice to, the subject matter recited in the instant application, the applicants have amended claim 1 to incorporate the elements of claims 7 and 8 into claim 1, in addition to amending the preamble, defining the location of the feeding funnel, and amending other aspects of the claim. Applicants assert that Ikoma does not teach or suggest all of the elements recited in instant claim 1. For example, Ikoma does not teach or suggest the rolling rollers as recited in claim 1.

Applicants respectfully request reconsideration and withdrawal of the rejection under 35 U.S.C. § 103(a) to claims 1-6 and 9-13 in view of the above-mentioned amendments.

The Examiner has also rejected claims 7 and 8 under 35 U.S.C. § 103(a) for allegedly being unpatentable over Ikoma in view of Murakami (U.S. Patent No. 4,578,977). Applicants respectfully disagree with the Examiner's contentions.

However, in order to expedite prosecution without disclaimer of, or prejudice to, the subject matter recited in the instant application, the applicants have amended claim 1 to incorporate the elements of claims 7 and 8 into claim 1, in addition to amending the preamble, defining the location of the feeding funnel, and amending other aspects of the claim. In view of the amendments to claim 1, applicants have cancelled claims 7 and 8. Thus, the rejection to claims 7 and 8 is rendered moot.

Applicants also assert that the remaining pending claims (1-6 and 9-13) are patentable over Ikoma and Murakami. Neither Ikoma nor Murakami alone or in combination teach or suggest the apparatus as claimed in claim 1. In particular:

A). The instant claims are directed to an apparatus that feeds an anode into a smelting reactor "in an essentially horizontal position...." Ikoma discloses an apparatus for feeding anodes into a smelting reactor, however, the apparatus in Ikoma operates by either a) dropping a bent anode into a smelting reactor in a vertical position or b) utilizing a jump rail to place an anode in a horizontal position. The instant claims, on the other hand, require that the apparatus to feed the anode into the smelting reactor in an essentially horizontal position, and importantly, claim 1 does not require the use of a jump rail to achieve the horizontal position. Thus, the instant claims are patentably distinct over Ikoma. Moreover, Murakami does remedy the deficiencies of Ikoma because Murakami does not teach or suggest feeding anodes into a smelting reactor.

Therefore, the cited references alone or in combination do not teach each and every element of the instant claims.

B). The instant claims require that the rolling rollers of the apparatus are "configured to essentially completely bend the anode on both sides thereby providing the anode with a radius of curvature of about 1,000 – about 3,000 millimeters." Applicants assert that the "radius of curvature" element in amended claim 1 is not a result-effective variable, because this element is a specific configuration and feature of the apparatus.

Additionally, neither Ikoma nor Murakami teach or suggest an apparatus configured to essentially completely bend an anode with a radius of curvature of about 1,000 – about 3,000 millimeters. Specifically, Ikoma does not teach an apparatus configured to essentially completely bend an anode. Instead, Ikoma discloses the use of a bending press, which creates a bending angle between 10 degrees to 45 degrees and a bending length of 50 mm to 200 mm. Ikoma illustrates that the bent anode contains two straight portions of metal meeting at just one bend angle (see col. 8, lines 26-33 and figure 7). The type of bend described in Ikoma is distinct from an apparatus configured to essentially completely bend an anode as claimed in the instant claims.

Furthermore, Murakami does not remedy the deficiencies of Ikoma. Murakami discloses "roll bending on shape metal" (see e.g., Title). In particular, Murakami discloses rollers that completely bend metal into rings, loops, or rolls (see e.g., figures 13-14). The type of bending described in Murakami is distinct from the bending recited in the instant claims. Specifically, Murakami does not teach or suggest an apparatus configured to essentially completely bend an anode with a radius of

curvature of about 1,000 – about 3,000 millimeters. Moreover, a person of ordinary skill in the art would not be motivated to modify the teachings of Murakami, which is specifically directed to “roll bending” to arrive at the instant invention (i.e., an essentially bent anode with a radius of curvature of about 1,000 – about 3,000 millimeters). In fact, applicants assert that a person would be required to modify Murakami in a manner that would destroy its intended function (i.e., roll bending) in order to arrive at an apparatus configured to essentially completely bend an anode with a radius of curvature of about 1,000 – about 3,000 millimeters. The MPEP guidelines state that “[i]f proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification” (MPEP § 2143.01(V)). Thus, Murakami does not teach, suggest, or motivate a person of ordinary skill in the art to modify Murakami to arrive at the instant claims. Therefore, the cited references alone or in combination do not teach each and every element of the instant claims.

C). Additionally, the instant claims require that “each rolling roller has a diameter ranging from 100 – 500 millimeters.” Neither Ikoma nor Murakami teach or suggest the claimed diameter range for the rolling rollers. Murakami discloses the use of rolling rollers to roll bend metal, however, Murakami does not provide any disclosure on the specific, or even preferred, diameter of the rolling rollers. Moreover, Ikoma does not remedy the deficiencies of Murakami, because Ikoma does not teach or suggest the use of rolling rollers. Therefore, the cited references alone or in combination do not teach each and every element of the instant claims.

In view of the above-mentioned amendments and remarks, applicants respectfully submits that the invention as recited in the claims as presented herein is allowable over the art of record. Accordingly, applicants respectfully request that the respective rejections be withdrawn.

DEPENDENT CLAIMS

Applicants have not independently addressed all of the rejections of the dependent claims. The applicants submit that for at least similar reasons as to why independent claim 1 from which all of the dependent claims 2-6 and 9-13 depend are believed allowable as discussed above, the dependent claims are also allowable. Applicants, however, reserve the right to address any individual rejections of the dependent claims and present independent bases for allowance for the dependent claims should such be necessary or appropriate.

CONCLUSION

Based on the foregoing amendments and remarks, the applicants respectfully request reconsideration and withdrawal of the pending rejections and allowance of this application. The applicants respectfully submit that the instant application is in condition for allowance. Entry of the amendment and an action passing this case to issue is therefore respectfully requested. In the event that a telephone conference would facilitate examination of this application in any way, the Examiner is invited to contact the undersigned at the number provided. Favorable action by the Examiner is earnestly solicited.

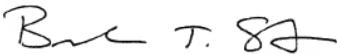
AUTHORIZATION

The Commissioner is hereby authorized to charge any additional fees which may be required for consideration of this Amendment to Deposit Account No. **504827**, Order No. 1004350.119US.

In the event that an extension of time is required, or which may be required in addition to that requested in a petition for an extension of time, the Commissioner is requested to grant a petition for that extension of time which is required to make this response timely and is hereby authorized to charge any fee for such an extension of time or credit any overpayment for an extension of time to Deposit Account No. **504827**, Order No. 1004350.119US.

Respectfully submitted,
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By:



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